

### **III. REMARKS**

In the Office Action, Claims 1-5, 7-9, 11-12, 15-19, 21-23, 25-27, 29 and 31 were rejected under 35 U.S.C. 102 as being anticipated by Chennakeshu (US 5371471) for reasons set forth in the Office Action. Various ones of the claims were rejected under 35 U.S.C. 103 as being unpatentable, namely, Claims 6, 20, 28 and 32 over Chennakeshu in view of Kubo (US Pub. 2003/0081702), claims 10, 24 and 30 over Chennakeshu in view of Katsuragawa (US 5907586), and claims 13-14 over Chennakeshu for reasons set forth in the Office Action.

The following argument is presented to overcome the rejections under 35 U.S.C. 102 and 103 and to show the presence of allowable subject matter in the claims.

Chennakeshu discloses a low complexity adaptive equalizer employing direct reference state updates.

Consider first on channel impulse response (CIR) estimation and constellation points determination presented by Chennakeshu.

The basic quantity used in metric computations is reference states. An initial estimate of these quantities is required to decode subsequent received signal samples. The estimates are obtained by estimating CIR coefficients and convolving the estimated CIR with the corresponding hypothesized symbols. The CIR estimates are obtained as a solution to a least squares problem.

A two-ray channel is assumed and hence, there are two CIR coefficients. These CIR estimates may be noisy, and may thus be refined by a smoothing scheme (column 10 at line 41 to column 12 at line 10).

Contrary to the teachings of the present specification, Chennakeshu does not teach, disclose or suggest that at least one of the highest and/or most reliable impulse response values is to be selected. Chennakeshu discloses that both CIR estimates are used to determine constellation points (see equations 12b-12e column 11). Chennakeshu also discloses that CIR may be determined by a conventional method, then employing equation 13 (column 16, lines 66-68). As is taught, also in equation 13, both CIR coefficients are used to determine constellation points.

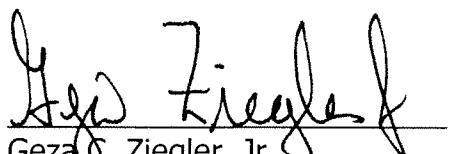
Block 13 in Fig. 5 determines initial symbol constellation points for reference symbol update unit 21 (Fig. 5, col. 17, lines 4-10). Chennakeshu's constellation point determination has been analyzed above. Block 13 does not determine a reference signal using the at least one impulse response value and a symbol sequence assumed as transmitted as disclosed in the present specification.

Thus, the present claims are clearly distinguished from the teachings of Chennakeshu.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment for a one month extension of time (\$120.00) as well as any other fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,



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Lisa Shimizu

Person Making Deposit